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THE editorials in the public press on the Brooklyn meeting of superintendents agree with President Eliot when he says it is but fair to give the poor boy, living in the country, as good a chance as the city boy to obtain the best kind of school education. It is

justice that every child should have a right to its own childhood for school purposes. It is wrong to provide so few well qualified men teachers, not because women teachers not become good teachers, but because so few of them continue teaching for any length of time. It is also evident that since but 15 per cent. of all elementary pupils ever reach the high schools, it is wrong to spend so much for the education of the few, and so little in comparison for the many who get all the school training they will ever have in the lower grades. If it become a question of the retention of the kindergarten and the high school in the public system, the high school should go; in other words, a dollar spent in the kindergarten is far better than a dollar spent in the high school. The papers also agree with Supt. Draper where he says:

"It is evident that the days of the cast iron system of uniform attainment as the only step to promotion are fast being numbered. It is also evident that the apathy and false economy of farmers in the country, in keeping districts so small as to preclude the payment of living salaries to teachers must be removed. The country school needs as good teaching as the city school. Many of our best men and women have been trained in the old district school, which was in many respects, better a generation ago than it is to-day."

These remarks show that the days of active reform are upon us, and teachers who are not re-forming themselves and getting ready for the demand for better teaching, that will soon be required everywhere, will be left high and dry on the shores of neglect and oblivion. The demand for good and great teachers was never so marked as to-day, and it is certain to be greater in the near future.

It is conceded that the supply of timber for superintendents of schools is small; and it would not be surprising that schools like the N. Y. University School of Pedagogy, and the New York State Normal College should be demanded, that should make their sole business the education of men for the work of school superintendence. It is becoming apparent that a superintendent needs to be a man of large caliber; this is not generally admitted, but it is dawning on the minds of people. Once, very small-minded men got possession of this place; it was treated as a place in the custom house—to be given to the one most subservient to the political

bosses. The idea is not wholly obsolete yet.

As a practical conclusion it is urged on principals of schools to master education so that they may be able to be the leader of twenty-five, fifty, one hundred, or even five hundred teachers. The suggestive article by Col. Parker shows that the real superintendent must be able to do more than make a report. He must have an educational ideal and engage his teachers in working that out. Such a man would find it necessary to meet his teachers forty times a year to set forth his views. To lay out a course of study is only the beginning of things. Remember, timber for superintendents of the new kind is scarce.

The discussion at the Brooklyn meeting turned upon reading, and Supt. W. A. Mowry, of Salem, cited an instance where a certain village took, "before the war," a half dozen daily newspapers; now two hundred copies are taken. He thought the war had brought about this extensive reading of the daily newspaper.

There were several who wanted to speak of the damage resulting from the daily newspaper, but politeness to the newspapers who were represented at the corner of the room by nearly a dozen young men forbade; yet it is one of the facts of the time that a great moral deterioration is due to the daily newspaper. The steady reader of any daily newspaper is intellectually injured; the steady reader of some of the daily papers is made familiar with a quantity of materials that will deteriorate him morally as well as intellectually.

What has caused this increased reading of daily newspapers—and weekly newspapers may be added? It is the exciting stuff that is in them; that is, the daily newspaper does to the mind as whiskey does to the mouth and stomach, it stimulates and puts the faculties in an abnormal condition which is only satisfied by further doses. For example, the case of the divorce of Mr. Blaine's son has occupied in some papers a column; the only reason for such prominence was the prominence of Mr. Blaine.

The young man or woman who reads any daily newspaper much will never be a student. It destroys the tastes of a student, but the young man or woman who reads some of our daily newspapers with their accounts of fights, murders, and murderers' trials, divorces, adulteries, elopements (always encouraged), and prize fights is as surely bound on a downward path. This foe must be met by the teacher who cares for the moral welfare of his pupils. Let him say, "I don't read that paper," when the name comes up. Let him point out that articles are put in, not because they are true, but to *sell the paper*.

The "yellow-covered" literature was once called the great foe of the school-room; a foe of vaster dimensions now comes forward in the shape of some daily papers which, with a few columns of value respecting foreign news, markets, Congress, etc., have many columns of materials as deteriorating to the human soul as the dynamite was to Russell Sage.

The University School of Pedagogy.

A number of the superintendents delayed their departure from the city to attend the school on Saturday, Feb. 27. The students to the number of fully 225 were there to greet them, and the enthusiasm was very great. The regular seminarium was laid aside. Dr. Palmer, of the Fredonia, N. Y., State normal school, was first introduced. He spoke concerning "The Principles Underlying the Ethical Training of Children," and gave certain foundation statements from which he deduced maxims and ways of proceeding, in order to train children to the full appreciation of right and wrong. His remarks were entirely without notes and showed a great familiarity with the subject.

Superintendent Greenwood, of Kansas City, followed in an address of three quarters of an hour on the topic, "The Contents of Children's Minds." Following the course of Dr. Stanley Hall, he has given this subject great attention. His remarks were most practical, touching the school—especially the primary school—most intimately. It was felt that what he said would make a most valuable pamphlet, and show teachers who have never thought of this subject, much that would astonish them.

Then that eminent teacher and superintendent, Dr. White, was introduced. It is impossible, in a few words, to give an idea of what he said. His three golden principles, and his three deductions from each of these principles, charmed his hearers. He was cheered, again and again. When he tried to sit down, thinking perhaps he had exhausted the patience of his audience, he was met with cries of "Go on! Go on!" It is seldom that an audience is held so completely as this one was for more than two hours and a half, no one feeling tired or taking note of the passage of time. A hearty vote of thanks was given to the speakers, and a copy of their addresses requested for publication. The members of the school unanimously agreed that this Saturday morning was a red letter day in the history of the University School of Pedagogy.

Assistant Superintendent Hoffman will address the School of Pedagogy on Saturday next at 10 A. M., on "Form Study and Manual Training."

The Problem of Moral Tone.

MORAL INFLUENCES ON PUPILS.

That teacher who is throwing out the strongest moral influences in her school is the least conscious of it. It is unconscious radiation, as flowers fill the air with fragrance. There is a certain benefit to a school, from carrying out a program of morals,—that is, a program that has certain times and occasions and ways laid down for the imparting of moral instruction. But like all compulsory teaching it is of inferior quality compared with that which flows out naturally from every pore of the teacher's soul.

Those who are familiar with school-rooms know precisely what is meant by the term school atmosphere. This atmosphere tells unmistakably whether there is a high moral tone in the school-room, or whether the spirit there is time-serving and the motives of a sordid, commonplace nature. Children in a thousand little ways unconsciously indicate the moral status of the school, as they reflect the training at home.

By morals, in this sense, is meant far more than an obedience to these positive commands: "Thou shalt not lie," "Thou shalt not steal from thy neighbor's desk," "Thou shalt not cheat thy teacher," and so on to the end of the school-room decalogue. It is not difficult to conceive of a school of half a hundred children who offend in none of these things, and yet are far below the high moral plane where a liberal obedience to these commandments is supposed to lift them.

"As is the teacher, so is the school," may be a threadbare saying, but its truth in this matter of a fine cultured sense of moral beauty is too pointed not to be quoted

once more. If the teacher sees and feels the spiritual beauty of moral truth she will, in time, inevitably color the school atmosphere with its pure glow. The children can not explain or define this influence, but they feel it as they feel the sunshine, and will blossom under it just as surely.

Instances are constantly occurring in the school-room where the beauty of doing right because it *is* right can be enforced; and this is what we mean by a fine, cultured sense of moral beauty.

"John copied his answer from my slate," says honest Mary, as the teacher commends him for accurate work. John's confusion confirms Mary's accusation, and what shall the teacher do? Correct John with a little sermon on honor and truth-telling right then and there? Never. If the teacher feels the offense to be a harsh discord in the universal harmony of right, she, without any attempt at acting a part, will show a sorrow and regret that will let the erring boy perceive that something underlies this wrong doing that makes of it a far more serious thing than the act itself.

But how and when shall the correction take place? By making opportunities to show the moral beauty of the right. By holding the mirror before this boy, through illustration, and example, and letting him see that one is ugly and deformed while the other is beautiful and attractive. The effect of such a course is not so immediate on this boy's conduct as a quick, sharp correction, for he may still go on deceiving day after day, because of a nature so stolid through heredity and home neglect that he does not feel the vivifying influences of honor and truth as they are hourly thrown about him by this wise teacher. But the influences are right; the method is right, and the sowing and the reaping must succeed each other in the spiritual as in the physical world.

If the true kindergarten is strong in its superiority over the ordinary school in any point, it is in this continuous effort for moral culture, for its own sake, and in the patient waiting for results. How to inculcate the right by making it attractive in winning power, is the problem before every teacher. In no way can it be solved but by the highest culture of truth in her own soul and by a study of child nature for the best means of reaching it. But let it not be believed for a moment, that a school which is guiltless of the sins of commission is, by reason of this negative goodness, necessarily a moral school in the highest, best sense of that word. Morality is not the sum of negative virtues.

Study of the History of Education.

By ELNORA CUDDEBACK, Ped. B., Principal Training Department, Alma College, Mich.

Experience has taught us that three things are necessary to secure the best results in studying the history of pedagogy or education:

1. That the pupils be brought into intimate acquaintance with the educational reformers, with the great teachers of past ages. To do this the biography of these persons must be studied.

The pupil must enter the scenes of the "times" in which the character under study moved, must walk with this character in his home, in his educational work, in his political work. We cannot appreciate the individuality of any person until we become fully acquainted with his environments. I have known pupils, who took no interest in the history of pedagogy or at least thought the work dull, to find this same study full of interest when they were led to become actually acquainted with the authors of reform, with the men whose principles they were studying.

2. That the pupils have a knowledge of psychology, and its application to teaching, and know something of modern methods. Unless students of educational history possess a knowledge of the application of psychology to teaching, or, in other words, the needs and methods of good teaching, they cannot make an estimate of the

work done by any reformer, of the condition of educational interests of any period. Unless we know that a thing is good we can have no feeling of gratitude for the giver, of admiration for the author.

3. A systematic plan of study. As a student reads the articles in *THE PROFESSIONAL TEACHER*, or in some work on the history of education, he should first determine what is his object in studying the article. This object should have at least five points and each of these may have one or more divisions. The following is a suggestive list:

1. The man.—Time, nationality, character, anecdote, vocation.
2. His educational work.—Kind, teaching, writings, schools.
3. Principles.—Original, characteristic, borrowed.
4. Methods.
5. Influence.—What did he do for education? How does acquaintance with this man benefit me, or improve my work?

In examining this outline, place the name Comenius at the head and try to answer the questions. If you cannot do so, again make a study of this grand reformer, make his acquaintance to such an extent that you can look forward to the celebration of his birthday on March 28, with as much pleasure as a child looks forward for the observation of the Fourth of July.

For verily as our forefathers declared independence from British rule, so did Comenius do much to free education from the chains of scholasticism, to bring into use the inductive methods.

Another means for keeping alive our interest in these great educational reformers is to make a "teachers' calendar." Just what this calendar provides for will depend on the special line of work followed by the teacher. The use of such a calendar means the giving of a few minutes each day to the study of some educator. And on the birthdays of the great reformers the memorizing of some quotation from said reformer to be used as a land-mark in future work.

THE STUDY OF THE HISTORY OF EDUCATION.

1. Why is the study of the biography of educational characters necessary?
2. To what extent is a knowledge of psychology necessary?
3. Why should there be a systematic plan of study?
4. What important points ought one to give concerning each reformer?
5. Why is the study of educational history valuable?
6. Should any character be studied as an isolated individual? Why so, or why not?
7. What benefit has the study been to you?



Study the Child to Learn to Teach.*

II.

By N. A. CALKINS, LL. D., New York.

A teacher, desiring to learn how to teach intelligently, who begins to observe the child carefully in order to ascertain how that which the child has already learned concerning a given subject was acquired, and endeavors to find the right way to lead the young learner to get more knowledge, has faced in the direction of that which he seeks. If that teacher early ascertains whether or not the senses of sight and hearing, of touch and the muscular sense, have been well developed, and are properly used by the child in learning, his steps are in the path of successful teaching.

At the outset, if the way is unfamiliar, the steps may be somewhat uncertain, and the teacher may look for guide-posts to assure him in his progress. Just at this time the teacher should turn to the child with patient watchfulness and thoughtful observation to discover the child's real condition as to the activities of his mind

through the senses. Having learned what the child most needs to enable him to get more knowledge, he will be able to decide how to proceed in the teaching.

Suppose the child needs to be taught how to spell in a manner that will enable him to use this knowledge readily. Let the teacher carefully observe the child's habits in relation to spelling and enter in his note-book of child study the results as to the following and other similar points of inquiry:—

HOW DOES THE CHILD LEARN TO SPELL?

Does the child indicate, by some rote form, that he learns to spell chiefly from *hearing the word pronounced and spelled orally*? *a*; does he show by his manner of spelling that he learns, chiefly, by *seeing the word and observing its form as a whole*, and then *noticing the letters in the word* in such a manner that the *formation of the word is thoroughly known by sight*? *b*; does he distinguish readily and correctly, or frequently miscall words that are similar in form, as *house, horse; cap, cup; soap, soup; stove, store; sight, right; book, look; five, fine*? *c*; after looking at a word, on the blackboard or chart, or in a book, can the child spell it with his eyes closed? *d*; can he name the first and last letters of a new word, after looking silently at the word three times, twice, or once? *e*; can the child remember the spelling of two, three, or more words written in a phrase, after spelling them silently two or three times? *f*; does the child readily recognize words learned through sight, when he sees them in reading? *g*; how many words learned on the previous day can the child spell from *memory*, orally or by writing them, without *hearing them pronounced* at the time of the spelling? *h*; how many words, learned within five days, can the child spell from *memory*? *i*; does the child fail frequently to recognize words in reading that were learned by oral spelling? *k*; does the child miscall *was, saw; on, no; for, of*; and similar words when reading? *l*.

After carefully considering the results of the above inquiries, made while studying the children of a class, the teacher should be able to tell how a child learned to spell; and if it appears that the habit of learning has been chiefly by *hearing*, steps should be taken at once to train the pupils *to learn spelling by sight* rather than by hearing. This may be begun by requiring them to spell more from memory than from dictation.

To test the ability of a class of pupils to learn spelling quickly by sight, write an unfamiliar word with chalk on a slate, hold up the slate so as to show the word to the class, one, two, three, four, or five seconds, and then find how many can write the word correctly after seeing it for five seconds, or three seconds, or two seconds. Repeat this exercise with two or three words in a phrase. If the pupils can not write, they may be requested to come to the teacher and whisper the spelling of the word seen on the slate.

If the class is able to read from books, after a lesson has been read, and the books closed, the pupils may be requested to spell all the new words that they remember in the lesson just read. This will be found an excellent way to train pupils in the habit of learning to spell by sight.

Words learned through hearing are registered by the mind in a different manner and in a different place from those learned through sight. Words learned through hearing only are not recognized by sight. Words learned through sight only, unless associated with things, acts, sounds, etc., are not recalled by spoken words. These facts should indicate the means for learning spelling in a way that will aid in learning to read. But thorough teaching requires that words learned through different senses shall be made complete symbols by association and assimilation in order that their sounds and their forms may represent the same things, acts, thoughts, and facts, and be easily recalled.

If teachers more generally understood this matter properly, and would do their work of teaching accordingly, the results of school-room work would be more in harmony with child-nature, and produce more practical results in education.

The School Room.

MARCH 12.—LANGUAGE AND THINGS.
MARCH 19.—EARTH AND SELF.
MARCH 26.—NUMBER AND PEOPLE.
APRIL 2.—PRIMARY.

Lesson on Things.

By E. RAINSFORD.

The real study of physics begins when the child first comprehends there is an outer world, or distinguishes himself from the outer world. He investigates for himself such things as hardness, softness, sweetness, in a course of lessons in which he is his own teacher. In the course of years he lays up a large stock of information about things. When he comes to school the teacher should attempt to teach him to arrive at some general principles concerning the phenomena the outer world presents to him. But he must pursue the same course that has already been pursued—the method of experiment.

Now the teacher in the majority of cases will be a woman, and as a rule women have not studied physics by the experimental method. Some claim that women naturally object to experimentation as not necessary, that it is enough to give the statement; others find that women object to experimenting in the school-room because it "soils the hands and makes a muss." Nevertheless experimenting is absolutely necessary.

The experiments suggested below are easily made, and will require but little apparatus and that of the simplest kind. Any school-room that lacks a box in which tumblers, bottles, corks, glass and rubber tubes, files, pincers, wire, sheet rubber, etc., are not found, lacks the essentials of a genuine school-room. Any woman teacher will find one of her older boys glad to make the experiments. This is a good rule: "No day without an experiment."

Production of heat.—A piece of fresh lime may be put into a tumbler full of cold water; the temperature of the water may be taken before it is put in and afterward. Let all the pupils feel that the tumbler is much warmer.

Question.—From whence comes the heat? Leave the matter for thought and inquiry.

Discussion.—The next day before the day's experiment is made the teacher will ask, what was the question proposed yesterday? The opinions of all, if possible, should be taken. If no good conclusion is reached the question should be given out for another day. The object is to provoke inquiry. By no means is the teacher to command discussion to stop while he tells them what the cause is.

In this case the questions, What is heat? How is it produced? will come up. The subject involved is a large one. One stick may be rubbed on another and the heat noted; in fact, the whole field will be traveled over. A hundred subsidiary questions will grow out of this main one; and it is quite likely that two weeks will be needed to discuss this one question and others that grow out of it.

One thing must be settled in the teacher's mind as a principle: The object he aims at is to (1) stimulate, and (2) direct the pupil in his effort to gain truth. Mr. D. P. Page discusses the first element on a chapter entitled "Making up Mind."

Compressibility of the air.—Without announcing the object, the teacher takes a tumbler and presses it inverted into water. She asks the pupils to notice that the air is compressed into a smaller space the deeper the tumbler is pressed into the water; this shows that the air is compressible.)

The experiment having been given, they are told they may make it at home; in fact, it may easily have been given by an older pupil. The next day a discussion takes place. Other questions come up, other experiments are made by the teacher and the pupil to show the properties or effects of the air.

A bottle (preferably a flask) has its mouth put into a tumbler of water; then heat is applied to the bottle or flask and the results noted. It may be proposed, who can make any more experiments with the air? Thus the thinkers will be set to work, and it is remarkable what apparatus will be made by boys of fourteen years of age.

Expansion of liquids by heat.—The teacher puts water into a glass bottle, or flask, filling it full. Now he puts an earthen dish with sand in on the stove and sets the flask in it. The class note the effects. Discussion comes up and covers a wide range. The thermometer and barometer, the full tea-kettle, the full pitcher with ice water that overflows, will be brought forward.

The force of steam.—The teacher puts some water into a bottle or flask and corks it. It is put into boiling water or it is set into a dish of sand and put on the stove. (As the forcing out of the cork will take some time, the preparation can be made, and, when it occurs, attention can be called to it, and questions proposed.) Then for two weeks experiments can be made. In one case a gun barrel was used; water was put in, a cork firmly driven in, and the gun barrel put in the stove, the door of which was left open. The loud report was of course much en-

joyed. This will bring up a great variety of questions; especially the subject of the steam engine will be discussed. Almost every district now has one boy in it who owns a toy steam engine; let it be brought to school and then set in operation.

Elasticity of Compression.—The teacher places a thick piece of rubber on the table and lays a heavy object on the rubber. The pupils notice that the thickness of the rubber is made less. The same may be accomplished by pressing on a little piece with the end of a pencil or ruler. Now the teacher takes a piece of glass and treats it in the same way. Questions will arise. The teacher asks, Is the object I use in place of the rubber similarly in a state of compression? Does it exert a force of elasticity upon the object resting upon it? This will bring up new thoughts and arouse the household.

Cohesion and Adhesion.—The teacher cuts a lead bullet in two and makes the fresh surfaces exceedingly smooth and flat. Then he presses them firmly together. Then he lets a pupil try it; then all try it. Then they discuss the results. The teacher lays a very smooth piece of plate-glass on the table and places upon it another of a little larger size (for convenience of lifting by the edges), and puts a weight upon them. After a while he carefully removes the weight, and tries to pick up the top plate. Then a pupil tries the experiment; then discussion follows. Two such plates left lying together for months or years may cohere so strongly as to be more easily broken than pulled apart.

The teacher takes two glass plates and introduces a few drops of water, and then presses them together. This is also discussed.

Support of Liquids.—The teacher ties a string to a stone and holds the end of the string in his hand and lowers the stone into water. He now lets a pupil try the experiment and give the result. Instead of a string a rubber band can be used and some other conclusion will be reached. A spring balance may next be employed and a stone that weighs five pounds. The weight from the grocer's counter is a handy thing to borrow. This little experiment will give enough to think about for a month.

Literature in the Class-Room.

By JOSEPHINE SIMPSON, Jersey City, N. J.

The day when the best thoughts of our men of genius appeared in the class-room solely as so many sentences to be parsed or analyzed, has gone by.

To-day we place these great utterances, for their own sake, before our pupils. Because they are inspiring and elevating we desire our pupils to see and to know them. Now how shall the pupil learn to know such selections as may be placed before him? Shall he learn them by rote? He might as well, perhaps, commit to memory a sum in addition. One might prove but a chain of words, just as the other is only a chain of figures. Would it not be best to draw out, step by step, the hidden meaning, by way of a questioning analysis. Then the pupil might be permitted to memorize consciously or unconsciously. To illustrate by an example: In a grammar class not long since, there appeared in one of the text-books the following quotation:

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay."

The teacher, judging from the hesitation with which the sentence was being read that it was not at all comprehended, attempted to draw from the pupils the hidden meaning of the expression. The sense of "ill" in this connection, the old-fashioned term "fares," the synonyms for "prey," "accumulates," "decay," "men," were all duly explained. Then an effort was made to put the new words into the places of the words given, where of course, as the puzzled pupils readily saw, they did not truly belong. And the children were more confused than ever, and the teacher saw the error of her ways. She had explained away the meaning in her detailed analysis. The unit of thought—the sentence—had been entirely lost to sight in the discussion of detached terms which really "had no sense to them," as the children would say, excepting as they helped to form that indissoluble union of thought, the sentence.

The teacher decided to allow the hapless quotation to remain lost for the time being. Not long after, an animated talk on the Spanish explorations and conquests in America, their results and effects, concluded with a rapid glance at Spain of to-day, her relative rank or importance among the European nations. At the close of the lesson the teacher slowly and emphatically repeated the lines referred to above, then asked the pupils if they understood what the couplet meant. The hands went up like a flash and the teacher smiled.

Is an exhaustive analysis of a lengthy poem a suitable subject for the crude mind of the average pupil in our grammar schools? One often sees searching questions on figures of speech, parsing of catch words, the meaning of ambiguous terms, or detached expressions that, left where they belong, might explain themselves, with a great deal else of kindred import. The writer distinctly recalls studying Virgil in some such manner. To construe happily, to scan deftly, to parse correctly, to hunt up historical allu-

sions—all this was done in a most thorough manner. As to the poem itself, one of the world's greatest poems, what it stood for, what meaning it had, what ethical effect it has produced, its manifold hidden beauties—all these things and many others were left to the *untouched* imaginations of the earnest yet unsuspecting students.

We have brought the writings of the great and the good into our school-rooms. Are they producing that ethical effect, that intellectual effect, they naturally should? Are they inciting the pupil to nobler thoughts, higher living? Are they touching his imagination, quickening his mental pulse? Do our methods of study aim primarily at these results? If not, we are not so very far ahead of the worthy old-timer who remorselessly broke to bits a flawless gem from Milton or Shakespeare in that feat of mental gymnastics known as grammatical analysis, and then proceeded to string together the broken fragments into a chain most wonderful to behold—the windings of that wonderful thing known as the *diagram*.

Ten Lessons in Manual Training.

By GEO. B. KILBON, Principal of Manual Training School, Springfield, Mass.

LESSON VI. USE OF SAWS.

Problem I. To Start the Kerf.

Take a waste piece of board of any dimensions, $4 \times 2 \times \frac{3}{4}$ in. answer. Place it end uppermost in the vice. With try-square and pencil draw lines on the upper end $\frac{1}{4}$ in. apart. Hold the slitting-saw in the right hand, guiding it with the left thumb so that its teeth shall rest on one of the lines. Drive the saw *first forward* and then back several times, taking full length strokes to within about 1 in. of each end, meantime so controlling the muscles of the right hand that, although the saw teeth touch the wood during each entire stroke, they shall not cut into it *at all*. The commencement of this process is illustrated in Fig. 1.

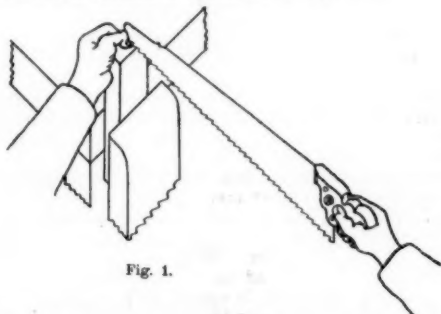


Fig. 1.

The teacher should be able to drive the saw forward and back on the left hand, as in Fig. 2, touching the palm constantly, but not injuring it, to illustrate clearly to pupils that it can be done. Require the class to drive the saw forward and back on the wood as above, acting in concert as the teacher counts 1, 2; 1, 2, etc., in order to get a moderate, regular motion, as boys left to themselves will saw with fury. The power to follow all of the above directions, we will term getting command of the saw; and every pupil needs to get this command before being allowed to saw.

Next let the weight of the saw bear on the board while the forward stroke is being made, but not during the backward stroke, and the saw will descend into the wood making a cut which is technically called a kerf.

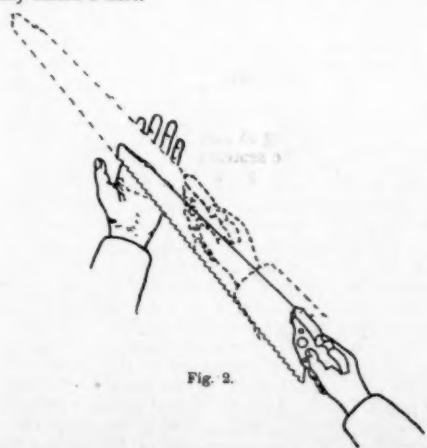


Fig. 2.

At the commencement and close of each forward stroke the saw

should be held at command. Midway of each forward stroke it should do its heaviest cutting. The full stroke should be a crescendo and diminuendo as in music. The saw should be held at command during the entire backward stroke.

Problem II. Slit-Sawing Near to Line.

Take a board 8 in. \times 2 in. \times $\frac{1}{4}$ in. and make an \times on one edge. Set the gauge $\frac{1}{4}$ in. and gauge two lines on each side and each end,

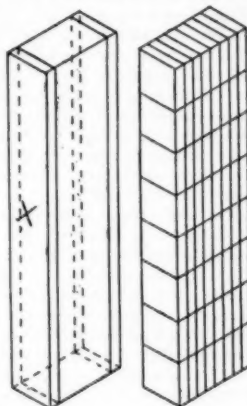


Fig. 3.

Fig. 4.

as in Fig. 3. Set the gauge $\frac{1}{4}$ in. and repeat; then $\frac{3}{4}$ in. and repeat; then 1 in. and gauge around once, that is, from the \times edge. Square around with fine pencil point at every inch. The work will appear as in Fig. 4.

Hold the work in the vice, end uppermost, as in Fig. 1, one-half of it buried, and saw a kerf $\frac{1}{8}$ in. to the right of the right hand line. When this kerf has proceeded downward 1 in., that is, to the first squared line, stop and examine it carefully, and if it has not kept parallel with the gauged line, scrape it with that portion of the saw nearest the handle, commonly called the heel of the saw, until it is restored to parallel. A, Fig. 5, represents a kerf at first running to the right, but afterwards restored to its proper position and continued a little below the squared line. B represents a kerf running at first to the left and afterward restored. On no account should the kerf be allowed to proceed below the squared line till its wrong direction, if it have any, is rectified, and the aim of the pupil must be to keep the saw from running at all to either side. Furthermore the location of the kerf should be as accurate on the back side of the work as on the front.

Proceed to saw down to the second squared line, stop and inspect, and correct if necessary. Proceed to saw down to the third squared line, and stop on it.

In the same manner saw near to the remaining gauged lines. The work will appear as the upper portion of Fig. 6 where for clearness only one-half of the number of lines and saw kerfs are shown.

Mark 10 off from 100 for every line which at its finish deviates $\frac{1}{16}$ in. from its proper position.

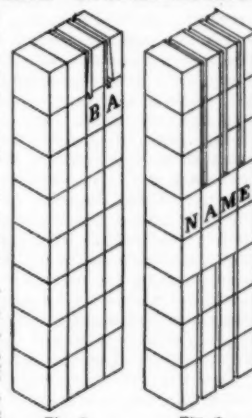


Fig. 5.

Fig. 6.

Problem III. Slit-Sawing Close to Line.

Place the opposite end of the work uppermost, and saw so that the left side of the saw blade shall cut to the center of the line, observing in all other respects the directions given above, and the work will appear as the lower portion of Fig. 6.

Problem IV. Cut-off Sawing Near to Line.

Take a board 8 in. \times $3\frac{1}{2}$ in. \times $\frac{1}{4}$ in., gauge lines at every $\frac{1}{2}$ in. on sides and ends and square pencil lines round at every $\frac{1}{4}$ in. Put it in the vice with an edge uppermost, and, observing directions given in problem 2, saw near to every line as in the upper portion of Fig. 7.

Mark 5 off from 100 for every line that deviates, at its finish, $\frac{1}{16}$ in. from its proper position.

Problem V. Cut-off Sawing Close to Line.

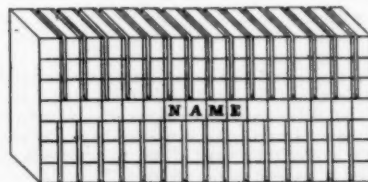


Fig. 7.

Place the board in the vice with the opposite edge uppermost, and observing directions given in problem 3, saw close to the line. The work will appear as in the lower portion of Fig. 7.

Rapid workmen may take a second board and repeat, which repetition will increase their proficiency, or they may saw diagonally.

English in the Grammar Grades.

By WILL S. MONROE, Superintendent of Schools, Pasadena, Cal.

The grammar school of to-day concerns itself quite as much with the study of English language and literature as the high school, and rightly so. First, because of the large number who leave school before the higher grade is reached and the need to these children of a course of training calculated to instil a deep and abiding love for that which is good and beautiful in literature, and which the larger school of life will offer them in the way of periodicals and public libraries; and, second, because of those who do enter the high school and the need to them of a preliminary course of training that will enable them to continue that which was begun in the lower grades. Dr. Balliet somewhere says: "We ought to teach in the primary schools the elements of as many different topics or branches as possible, and then, as the pupil advances, let the work widen and become more and more difficult."

In our zeal to introduce the elements of the natural sciences in the elementary schools, we must not forget that literature furnishes avenues of training not found in the sciences; and that its value, as an agent in refining and correcting the taste, is not exceeded by any subject of study. It touches the feelings and quickens the sensibilities and creates ideals as nothing else in our school curriculum is capable of doing. What shall this line of work, displaced in an already over-crowded program? will be asked by thoughtful teachers who believe in the value of such work. The text-book work in reading, during the last two years of the grammar grade, may profitably be given to the study of English. Most of the readers not being adapted for such work, inexpensive books, such as are found in the Riverside Literature series, English Classics, and Classics for Children, may be bought for less than the regulation price of a reader.

Whittier's *Snow Bound* is not too difficult for pupils of the seventh-year grade. And Longfellow's *Evangeline* and Scott's *Lady of the Lake* have been found not beyond the grasp of eighth-year classes that have been under the supervision of the writer. The first step in the work is the reading of the text, getting the thought, and this means much more than a casual perusal. The exact meaning of words and lines, definition of thought, shades of meaning, not glittering generalities, must be the aim of the teacher. What does this particular word in this peculiar use imply? It may mean this or that in some constructions, but what does it mean here? This is an important step in training in English and it should be taken in the grammar grades. If it is not, those pupils who do not reach the high school will go through life seeing few of those finer touches with which our classics gleam. And those who do enter the high school will be without keen perceptions in analyzing thought; and this higher work will be seriously impaired by lack of previous preparation.

After the selection had been read, it should be reproduced orally as a language lesson. Training to talk, to tell in their own language that which has meaning and vividness, will develop oral language, articulation, emphasis, etc. Following the oral reproduction should be the written lesson, and this should be done by means of a blackboard outline, that there may be some logical arrangement of the thoughts expressed. The reproduction of the English lesson affords abundant opportunity for training in penmanship, spelling, and the mechanics of language. Here, too, the drill in so-called technical grammar should be given, if given at all. If children of the grammar grade age *must* know verbs, and nouns, and clauses, they should find them in the language lessons which they have helped to make.

Drawing may accompany the English work, and profitably so. Let the children express with pencil or crayon the picture contained in this or that line or stanza. Crude it will be, to be sure, but if it expresses the child's concept, skill in drawing will be a matter of growth. Here too the imagination is given opportunity for healthful exercise. Different pupils will see differently, and these differences should find free expression in the drawing work. The child's ideals will grow as he is taught to see and appreciate; and as his ideals grow, so should the power to represent by means of drawing.

There are other phases of English study in the grammar grades which the limits of this article forbid other than the mention. Among these are character study—the seeing of men and women, beings with flesh and blood, in every person studied; picture-making—describing in clear, beautiful, expressive terms the places mentioned; ideal-formations—making the written thoughts and feelings of the men and women whom they may study standards of excellence which they may strive to approach, and "as they strive to ascend, ascend in the striving."

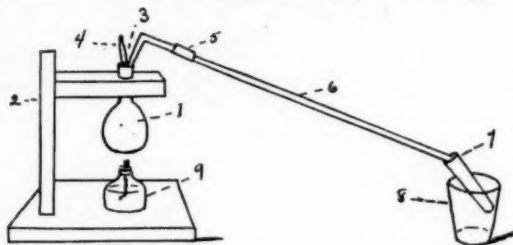
An inspector in England said to the history class, "Describe some effects of the proceedings under Queen Mary." A glib pupil replied, "Many of the bishops were deprived of their sees." The inspector asked the meaning of the statement. After a long pause one of the boys put up his hand and said, "Had their eyes put out!" Not bad that!

Distillation.

By R. E. L., Brookline, Mass.

LESSON II.

Apparatus needed.—(1.) A flint glass flask. (2.) A wooden frame to hold flask. (3.) A cork into which is inserted a curved glass tube diameter $\frac{1}{4}$ ". (4.) Thermometer. (5.) 2 inches of rubber tubing $\frac{1}{4}$ " dia. (6.) 2 ft. of glass tubing $\frac{1}{4}$ " dia. (7.) Test tube $\frac{3}{8}$ " diameter. (8.) Tumbler. (9.) Alcohol lamp.



Exp. 1. Pour the cider, wine, or beer, made during the lesson on fermentation into a flask. Push the stem of the thermometer into cork with glass tubing. Insert into neck of bottle. Join the short piece of glass tubing in cork to long glass tube by slipping short rubber tubing over end of each.

Put end of glass tube down into test tube, which should be placed in a tumbler, nearly filled with cold water.

Note every effect you see while liquid is boiling. Keep watch of the mercury in the thermometer. Note temperature before and after it boils.

Questions.—What happens in flask? in glass tube? in test tube? Compare contents of test tube with original liquid.

Exp. 2. Boil water in same way as liquid in *Exp. 1.* Compare temperature and contents of test tubes.

Give name "Distillation" to these processes.

To distil is to separate liquids into their parts.

A liquid many times distilled is said to be rectified.

Exp. 3. Boil any distilled liquor, and catch the steam, until the contents in the test tube can be ignited by applying a lighted match.

This is the test of pure alcohol.

Compare quantity in test tube with original quantity, and find per cent. of alcohol in the liquor.

Ques. What is alcohol? How did you obtain it?

A Combination Lesson.

By SUPT. M. A. CASSIDY, Lexington, Ky.

The spelling lesson is always more or less unsatisfactory, whatever method we may adopt. The results obtained do not repay the time and labor expended. When we examine the written exercises of our pupils we are reminded that not only are they poor spellers, but that they do not know how to construct a sentence, and that their vocabulary of words is limited. The following combination lesson is suggested, and, if a faithful and an unprejudiced trial is given it, I am sure that it will bring good results. Select from either the reading or history lesson ten words, and place them on the board for the pupils to copy, telling them that on the morrow each pupil will be expected to know how to spell and give the meaning of each word. The teacher will also take a copy of the words, and, after school hours, when he is making preparation for next day's recitations, let him make ten sentences, each one containing one of the ten words assigned for the spelling lesson. The simplicity of the sentences should vary, according to the ages of the pupils, and there should be examples of each kind of sentences. When the hour for the spelling lesson comes, each pupil should be at his desk, having a clean slate and a sharp pencil. The teacher should state, before the recitation begins, that each sentence will be read but *once*. Then read each sentence slowly and distinctly, giving each pupil ample time to complete his work. When all the sentences have been dictated and written, the pupils should exchange slates, and the teacher write the sentences legibly and correctly on the board. Then those pupils who have made mistakes will be given sufficient time in which to make corrections. This lesson should be a daily exercise in all primary and intermediate grades. The good that will result is obvious. In the first place, we have a lesson in spelling, teaching the meaning and correct use of the words. The vocabulary of the pupils is enlarged. Then there is the language lesson, the pupils learning to make correct sentences from daily seeing and writing correct sentences, and at the same time familiarizing themselves with the correct use of the capital letters and punctuation. And, best of all, there is a lesson in attention that cannot fail of good results.

A Lesson in Grammar.

By ELLA M. POWERS, Somerville, Mass.

A teacher's duty is not fully performed unless the pupils comprehend the full meaning of everything they learn. No one can thoroughly learn a piece of work unless he is compelled to do it himself. Many teachers all over our country are doing work which the pupils might accomplish.

Step into our grammar schools and you will hear a teacher say: "For the lesson in Grammar to-morrow, you may write the sentences on paper and bring them to me for correction."

The next day the stack of papers, well written and carelessly written, are solemnly collected and placed high on the teacher's desk; these she marks with the blue pencil, during the recess, noon hour, or at night, giving precious moments, even hours, to a labor that is productive of no better results on the parts of the scholar, no greater satisfaction to the teacher, and to what end?

The next day after being distributed they are joyfully consigned to the waste-basket by the pupils.

Correcting papers in this way is one of the needless tasks teachers impose upon themselves; it is senseless drudgery, frankly; the end gained is zero. If the time thus spent on corrections were spent on individual attention among the dullards more satisfactory results would follow.

In many instances it has not occurred to these teachers that the members of that grammar class could be taught to correct them. They might be exchanged and intelligently studied and corrected by every one. The advantage of this is evident, for much thorough study of arrangement, capitalization, punctuation, spelling, and paraphrasing, is necessary on the part of the pupil. The sentences could be properly written on the blackboard, and each correct his own in the class; reasons for the correct form can then be given.

Some day organize a "Grammar Battle." Let the class choose sides, having appointed a captain for each army.

Give them sentences for correction, parsing, analyzing, or to illustrate punctuation, or capitalization, and credit each side at the close of the recitation with the number of correct sentences.

The victorious side will have the greatest number of correct sentences.

Whatever is done in that grammar class, let all correction be done on the spot.

Pupils learn to do by doing, and do not deprive them of a benefit, for it neither improves the intellect nor the disposition of the teacher to correct twenty or thirty papers each evening.

Had each member of the class one paper to look over, study and correct, the benefit would have been lasting; far more good would have resulted than the good they would otherwise do by contributing so much valuable matter to the waste basket.

One Way to Teach Color.

By JESSIE E. BURBANK, Chauncy Hall, Boston, Mass.

(Teacher, holding a red ball.)

What have I in my hand? Can you think of something else that is red, something that is found in the sea? Yes, "coral." Let us tell about the coral:

"Sailor, good sailor, what did you bring me?"

"Red coral, white coral, coral from the sea;

I did not dig it from the ground, nor pluck it from a tree,
But little creatures made it in the deep blue sea."

We can play this is a piece of red coral in the sea. (Putting it on the table.) What else is in the sea? Yes; "sea-weed," but something that is alive. "Fishes." The fishes one day agreed to meet near the red coral to have a pleasant time.

The first one that came was a blue-fish. (Place the blue ball on the table.) Next one that came was yellow. (Yellow ball.) Its name is yellow perch. The next fish was orange color. Perhaps some one of you has one at home in a glass tank. That is right it was a "gold-fish." Where do you think the gold-fish would like to stand? Yes; "between the coral and yellow perch." (Arrange the balls in the order of the colors of the rainbow.) The next one that came was of a green color. I don't think you have ever seen any of that color. When we buy them from the fisherman they are red, having been boiled so as to be good to eat, but when they are alive and crawling about in the water they are green. Yes; it was a "lobster." The last one that came to the picnic was a creature in a shell with purple wing-shaped arms which it wrapped around its shell. It is called a nautilus. As all the fishes had come they played a few games around the coral. First, they played hide and seek. (Let the children close their eyes while the teacher places a ball behind the coral and covers it with her hand. Then the children may open their eyes and think which fish is hiding.)

"Now guess little playmate who has gone from our ring,
And if you guess rightly we will clap as we sing."

The fishes then took their places to have a little chat and each told where it lived. The blue-fish said its home was in the ocean, but it spent its summers in the rivers near Boston. "I swim by moving my tail and body. My body is covered with small scales overlapping which make me a nice coat to wear in the water." He asked the others to think why his coat was made of so many small pieces overlapping instead of one large piece. The yellow perch could tell, for he had a coat made in the same way. He said, "When there are so many pieces you can move and bend your body and so can swim, but if your coat was of one piece you could not swim and move about from place to place. The blue-fish said that was right, and he was very glad he was made so that he could swim.

Says the lobster: "My coat is in one piece except at the tail, so I can only bend my tail. How do you think I move in the water? Well, I will tell you. I have some legs so I can crawl, but if I want to go very fast I bend my tail quickly and with one jump go a great way. I like to shoot myself into cracks between the rocks. I have to jump backwards, so when I want to go into a hole I turn my back to it and bend my tail, and before I know it, I am there."

The yellow perch then spoke, "I live in the rivers and streams and enjoy playing under the overhanging banks. I am not made like the lobster, but more like the blue-fish." Then came the nautilus' turn: "My home is at the very bottom of the warm ocean. My house is a very hard shell, in which is a number of rooms. I only live in the last one, the doors of the others I keep closed. Next year I shall make me a new room which will be larger than the one in which I now live. Then I shall go into that and close the door of this one."

How many fishes have spoken? Four. Are there any more? Yes; one, the gold-fish. He said: "I live many, many miles from here, on the other side of the world in the waters near China. A great many of my friends have been caught by people and taken to their homes, because they are so handsome. There they live in glass dishes. I hope I shall never be caught, for it cannot be pleasant to have so little water when one is used to the ocean. It is time I bade you all good-bye, for I have a long way to go and am anxious about my mate and baby gold-fishes whom I left alone." The nautilus also went. How many fishes have gone? Two. How many remain? Three. The lobster and the blue-fish went together, for they both live near Boston. How many fishes have gone? Four. The yellow perch then hurried home. What was left? Yes; "the coral." Even this did not stay long, for a sailor happened to see it and took it home to his little girl.

Grouping Children.

By E. E. K.

A teacher stood before a class of five rows of little street graduates experiencing their first day in school, with the problem before her of learning their names and getting them grouped for work. She began by laying on each child's desk a bundle of tooth-picks, with the order "Don't touch!" given pleasantly, with an air of mystery and, followed by watchfulness and the confiscation of one or two bundles to which heedless fingers wandered in spite of the caution.

"Who can tell me where my hands are?
Little Boy Blue,
Let me hear from you."

"Behind you."

"Can you all put your hands behind you? Let me see?"

"Why, yes! How nice! All but one little boy who doesn't know how. But he *does*, though?"

"Now can you keep your hands there while I do something with my tooth-picks? Let me see if you can!"—and her eyes, pleasantly command the class while she removes the rubber ring and impressively lays it down at the back of her desk and the sticks directly in front of her.

"Could *you* do that, Tommy Tucker? Could you, Little Red Riding-Hood." (Affirmative nods.)

"All who can do just what I did, may do it." (Smiling correction of those who show their neighbors and fail themselves.)

"All who can put their hands behind them may do it." (Eye control, pulling stragglers into line.)

"If you would like to give me seven of your tooth-picks, hold them up so." (Collection from those who have counted correctly. (Successful one sent to the front of the room.)

"Who will give me six tooth-picks?" (Those who can count six are sent to the left. These include some who can really count seven but were too slow of apprehension to respond to the first call.)

"Now, who will give me five?" (Those who can count five are sent to the back and those who can count four to the right. The remaining children are grouped about the teacher's desk.)

"A little boy had seven sticks and he gave his teacher five. How many had he then?"

This story is propounded in the teacher's most fascinating manner to group one. The child who is first able to answer it is given the back seat in the first row. An easier question is given and the next seat filled. Diminishing the difficulty of her questions and examining the groups in their order, the teacher fills row after row of seats, beginning at the back each time, so as to have the weaker intellects nearer to her desk and the front blackboard. The children who could not count five are examined and seated in the same manner at the remaining desks.

Little discontents that are ready to bubble forth in audible discord (for there are children who claim an inalienable right of property in their first seat at school) are temporarily allayed by the teaching of a pretty song. An exercise in quick rising and sitting follows. Then the teacher asks:

"How many Jacks have I here? How many Johnnies? Marys?" etc., and "Whose name is something else?" and "We will call this Katie's row," etc.

The roll-book is now taken from the desk, with the introduction:

"I must find out now just where all my children are. Where is Gertie Abbott? Why, there she is, in Eddie's row! How nice! And where is Sammy Abrahams?" etc. etc. etc.

Pronouncing English.

By HENRY A. FORD, A. M., Detroit, Mich.

The following notes, almost altogether in orthoepy, continue a list of changes made by the Century Dictionary from the general consensus of authority in this country, as represented by the "Pronouncing Hand-book" (Boston) and "The Orthoepist" (New York).

E'conomic or ec'onomic. So economical.
Eden (edn).
Effort (foart or furt).
Eleemosynary (no longer moz).
Embra'sure (military, em').
Emir (em-meer').
Empir'ic.
Encyclope'dic (or ped').
Ener'vate (or en').
Enigmat'ic (long e).
Envelope, noun (envel'op, en' velop, ong' velop).
Epaulet or epaulette. A matter of spelling.
E'poch or Ep'och.
Equation (zhun or shun). The schoolmasters and institute teachers have long desired the former, now exalted to be chief.
Erudition (oo, not yu).
Es'sayist (not essay ist).
Etiquette' (not et').
E'vangelical.
Eve'ning (not evn-ing).
Every (ev re, not ev-e-ry, as before).
Executor (gz). So executrix. Little change is remarked in this class of words; but we have eks or egzemplary, egz hale, eksuberance, and only egzhaust, ekshume, egzibit, and egzort where two forms were lately admissible. Expert' or ex'pert, noun, reverses the former order. Ex'tant (not before allowed) or extant'. Ex'tirpate only.
Eyre (i-re). Only one of four pronunciations left.
Falcon (faw'kn or fal'kn).
Familiarity (yar etc).
Farina (ree or rye).
Fec'und or fe'cund. But infe'cun d or infec'und.
Fe'tid or fet'id.
Fin'ancier or fi'nancier.
Flaunt (flahnt or flawnt).
Flection or flexion. Spelling.
Flue (floo.) So fluid, flute.
Fol'io.
Forbade (bad or bade).
For'ay.
Franchise (i short or long).
Frank'incense.
Fra'ternize.
Garden (gardn).
Garish or gairish. Spelling.
Gaseous (gass, not gaz). So gasometer.
Gaunt (gahnt or gawnt).
Gen-eal ogy.
Gen'ial and gen'ius (yal and yus).
Giraffe (je only).
Glacier (gla'sheer or glas'eer). This gives us at last a welcome English pronunciation, as almost everybody uses it.

God or Gawd. So godlike, etc.
Gone (gawn).
Gooseberry (goose or gooz).
Gram or gramme. The reformed spelling preferred. One more step in advance.
Gratis (graytis only).
Grease (or greeze), verb. Greasy or greazy.
Grimalkin (mal or maul).
Groat (grote only).
Guardian (yan).
Guil'lotine.
Gunwale (or gun'el).
Halfpenny (hay or haf).
Halibut or holibut. Spelling; both pronounced alike.
Harem (hay or hah).
Harlequin (kin or kwin).
Haunch (hahnh or hawnh). So haunt, launch.
Hearth (hurth or harth). A reversal.
Heather (th not aspirated).
Heg'ira only.
Height or hight. Spelling; the latter noted as the more correct form.
Helle'nic or Hellen'ic.
He'lot or hel'ot.
Herb (erb or herb). So herbage.
Hereof (ov).
Herewith (th sub-vocal or aspirated).
Hilarity (first i short or long).
Hindu or Hindoo (Hin' or doo').
Homage (or om).
Homeopathy (or æ).
Hoop (oo long or short).
Hostler or ostler (hos or os accordingly).
Housewife (i long; also huz'wif or huz'if, short i). The first and second are used in the sense of a little workbag.
Hovel (hov or huv).
Hover (huv or hov).
Humble (or umble). Similarly hu(or yu)mor and humorist.
Hurah (hoorah or hurah). Huzza or huzzah (huzah or huzaye).
Hussar (z).
Hypochondriac (y long or short).
Hypot'enuse or hypoth'enuse.
Hys sop.



Samuel F. B. Morse.

His Boyhood and Youth.—Prof. Morse, eldest son of the great American divine and geographer, Jedediah Morse, D. D., was born at Charlestown, Mass., April 27, 1791. He gave considerable attention to painting while at Yale college, from which institution he graduated in 1810 with the degree of A. B.

As an Artist.—After studying for some time under Washington Allston, he went with him to London, where he had instruction from Benjamin West. His plaster model of "The Dying Hercules" was awarded a gold medal by the Adelphi society of arts, and the painting of the same subject, was considered one of the best twelve exhibited at the Royal academy. He founded in New York the National academy of design, of which he was president for some years, and is said to have delivered the first series of lectures on the fine arts ever given in this country.

As a Scientist.—He did not give his entire attention to art, but was interested in chemistry, and especially in electrical and galvanic experiments. Prof. Morse probably had his interest awakened in the subject of electro-magnetism through conversations with Prof. J. Freeman Dana, who was a personal friend. He

went to Europe in 1829, and while there became convinced that electricity might be made the means of conveying information. He was undoubtedly led up to this conception by the then recent discovery of the electro-magnet by Prof. Joseph Henry, of the Albany academy.

His Famous Invention.—On his return voyage he made drawings of his afterward famous telegraph, and invented the alphabet of dots and dashes known by his name. Before the close of the year 1832, a portion of the apparatus which he had devised had been constructed; but it was not until three years later that, in a room in the University of the City of New York, he showed the telegraph operating with half a mile of wire. In 1835, he was appointed professor of fine arts in the University of the City of New York.

His Struggles for Recognition.—He continued his experiments, and in 1837 solicited help from the government in building a line to demonstrate the utility of his invention. It was not until the spring of 1843, that Congress appropriated \$30,000 for the construction of a trial line from Baltimore to Washington. The weary years of waiting for government aid were terrible ones for Professor Morse. Many times during that period he was reduced to such straits that he frequently suffered for want of food. It is stated that the news of the appropriation of Congress was carried to him by Miss Anna G. Ellis, daughter of the commissioner of patents, who found him in such depths of despair, that it is unlikely he could have persevered much longer, had things not taken this favorable aspect.

The First Message.—Over the completed line on May 24, 1844, Prof. Morse put to a public test the great experiment on which his mind had been laboring for so many anxious years. From the rooms of the United States supreme court, this message, —said to have been dictated by Miss Ellis—was sent to Baltimore, instantaneously received, and immediately returned: "What hath God wrought!" Congress declining to purchase the patent, a stock company was formed, and after a period of difficulty and litigation the telegraph became a valuable property.

Honors Accorded the Inventor.—The number and character of the honors heaped upon Prof. Morse, on account of his invaluable invention, have probably never been equaled in the case of any other American. He was given the degree of LL.D. by Yale college and was made a member of numerous scientific societies in this country and abroad, and was highly honored by numerous foreign powers. A bronze statue of Prof. Morse was unveiled with imposing ceremonies on the 10th of June, 1871, in Central Park, Prof. Morse himself being present.

Other Inventions.—By careful experiments he demonstrated the feasibility of submarine cables. During his stay in Paris in 1829, he met with Prof. Daguerre, and on his return was the first to produce daguerreotypes in America. In conjunction with Prof. Draper, he was the pioneer in the successful photography of living subjects.

Personal Appearance and Character.—Prof. Morse was a man of great simplicity and energy of character, large hearted and generous in disposition, firm in his friendships, and persistent and exhaustive in all his researches. He held the pen of a ready writer, and his genius, learning, and taste were illustrated by many contributions to the press, all of them evincing graceful rhetoric and elaborate argument. Prof. Morse was a fine looking man of commanding presence. He had, in his age, an abundance of almost snow-white hair and a long, white beard. One's ideal of a great man was completely realized in him. The last time he appeared in public was at the dedication of the statue of Benjamin Franklin in Printing-House Square, January 17, 1872, on which occasion he delivered the address and unveiled the statue. He died less than three months afterward, April 2, 1872, in New York.

Be Kind.

By DORA DONN.

Suppose there were a telephone,
With which to reach the ear
Of all school-children in the world,
And surely make them hear,
This little message I would send
To every youthful mind:
Whate'er their rank or place in life,
To every one be kind.

Oh! heed this message, boys and girls,
In school, or at your play:
Be kind in everything you do,
Be kind, in all you say,
For kindly deeds, and kindly words,
Denote a noble mind,
And kindness will make all grow
More gentle and refined.

Two Opinions.

(These are designed for companion pieces to be spoken by a boy and a girl, who stand upon the floor at the same time. The girl can have a hoop in her hand, while the boy may be muffled up in winter clothing and be in a shivering, disgusted condition.)

In Winter.

By RUTH DAVENPORT.

Right glad I am when winter comes,
And sorry when it goes,
For what care I if sly Jack Frost
Does sometimes pinch my toes.

I'd like to go away up North,
The place he makes his home,
And then behind the reindeers swift
Over the snow-fields roam.

The high hills' crest, the little hut,
All would be white and fair;
And in the sunshine sparkle bright,
As filled with jewels rare.

I'd have no fear of ice too thin,
My snow-men would not melt;
And wrapped in fur from head to foot
The cold could not be felt.

But when I've lots of fun at home,
Whew! how we coast down hill;
Good skating too for many a day,
Old Winter, pray, long with us stay
Till I have had my fill.

In Summer.

I would like best the clime
Where 'tis all summer time;
Where birds in the branches are singing;
Where long, long is the day,
Chance enough for my play,
And no fear of the school-bell's ringing.

When Jack Frost is around,
Snow and ice on the ground,
It takes much too long to dress me;
Coat and cap I must have,
Muffs and rubbers not leave,
For mamma wants me warm as can be.

Then after I am out
Fifteen minutes—about,
My nose and my toes they are aching.
Then all my play is done,
I can have no more fun
And quick my way home I am taking.

But on warm summer days,
Then my hoop I can chase,
As swift it rolls over and over;
'Tis the best sport I know,
Fast behind that to go.
Then I'm happy as bees in clover.

An Author's Calendar.

Quotation calendars may be bought for "a song," so there is no economy in making them. But the interest of the pupils in literature, and the culture derived from it, are sufficient reasons to urge the teacher to make a calendar for her school-room.

The materials needed are 365 sheets of paper, and it is best to buy a number of extra sheets in case some are spoiled. Six inches by four and a half is a good size. Give a certain number of these to each pupil asking him to select an appropriate selection and write it very neatly on the sheet. The selections may be made from one author, or be miscellaneous, as preferred.

When the 365 leaflets are ready, they are to be carefully marked with the months, and the days numbered. Then after ascertaining that they are properly arranged, get a book-binder to brush the sides with glue, and you have a solid block of paper. This must be mounted on heavy cardboard which may be square, or any fanciful shape, if preferred. If you do not paint, ask some friend to decorate it for you with a pretty branch of sweet briar, rose, etc. Hang the calendar by a ribbon in a conspicuous place in your school-room, and you have an ornament of which you may justly be proud.

The Educational Field.



James F. Crooker.

James F. Crooker was born August 12, 1834, in Onondaga Co., near Syracuse. When about two years old his parents removed to Erie Co. where most of his years have been spent in educational work since his maturity. His father was a farmer and the country was new; so amid the toils of the farm he gained the elements of a common school education and began teaching in the district schools during the winter. With the money thus earned he attended the academies and high schools at Fredonia and Springville, and thus sought to carry his education to more generous stages. He then devoted himself to school-room work; only leaving it to take the office of school commissioner for three years.

Through dint of ambition and perseverance he finally obtained a position as principal of one of the smaller city public schools in Buffalo. He has maintained his connection with the schools of Buffalo for over thirty years, becoming principal of some of the largest schools in the city, and in 1881 was elected to the office of superintendent. This office he has been re-elected to for four successive terms.

On February 10 of this year he was elected by the legislature of New York state to the position of superintendent of public instruction for the term of three years. The numerous comments upon his withdrawal from the field of labor in which he has been so long engaged, by the public press, and the many other expressions of the high regard in which he is held by the citizens of Buffalo are evidences of his faithful and efficient work there. His neighbors and his fellow citizens speak well of him. His future career will be watched with no little anxiety. He believes in progressive and practical education.

The *Times* (Buffalo, N. Y.) says:

"The removal of politics from the schools is most successfully accomplished in Massachusetts. In that state every city or town elects a school board or school committee, one-third of whose membership is chosen each year for three years. This board appoints the school superintendent, and in consultation with him, appoints the teachers and has general charge of all school matters. When New York gets to that method, we shall have less politics in the schools."

"A former custom carried on in the Plattsburg, (N. Y.) high school has been recently revived in the form of current topics at the morning exercises. This is a very interesting and profitable feature of our work and has thus far met with marked success. The current topics of the day are brought up and discussed by different members of the school and thus the attention and interest of the scholars are drawn in that direction and a general intelligence imparted. According to modern ideas of education, events of the day are as much a part of the curriculum of the school and are of as much importance as the more common book-knowledge. The purposes sought are a broadening of ideas, relief from the 'ruts' of ordinary book study, and a wider scope of knowledge."

The state of Michigan, by an act of the last legislature, incorporated the kindergarten system in her public schools. This act empowers the school board of every district, village, city, or charter school to provide room and apparatus for instructing children in the kindergarten methods, and to require teachers to be qualified in the kindergarten system, it also provides that all

children residing in the district, between the ages of four and seven, shall be entitled to instruction by the kindergarten methods.

There is a cry in England that more teachers should be trained for their work. There are at present 46,539 certificated teachers, 21,784 assistant teachers, and 29,610 pupil teachers. It is suggested that the school boards for large towns should be empowered to establish training colleges. This is a better showing than we can make in America; we have 250,000 who have received no training whatever.

The report of Superintendent Cassidy, of the Lexington, Ky., schools declares the greatest need of the schools to be kindergartens. It is worthy of note how short the period since kindergartens were laughed at; now they are seen to rank high among the educational agencies we are to employ.

In the *School Commission*, a new educational published at Saginaw, Mich., D. E. McClure, commissioner of Oceana Co. says the two great factors of progress in his county are the (1) graded course of reading, and (2) the educational meetings. At one of these latter "The Farmer and his Environments" was discussed. At another "The Environments of the Children at Home and at School" are to be discussed. Then "Labor and Capital" is to be taken up, and so on.

It is all right that the teachers should be on deck when there are to be lectures—if there are good ones; but don't get the educational associations of your county to discussing "Labor and Capital" etc., etc. A horticultural association in the state of Michigan did a wonderful work until it began to discuss "Dress Reform;" then those who had tulips and geraniums in their windows staid away.

The editor of that worthy educational, *The Western School Journal* of Kansas, calls prayerful attention to the distribution of membership at the meeting of the N. E. A. at Toronto. There is not room for all of his remarks. Note this gently decreasing list:

Vermont, 4; Delaware, 5; New Hampshire, 9; New Jersey, 16; Connecticut, 18; Maine, 30; Pennsylvania, 76; Massachusetts, 114; Colorado, 114; New York, 117; Tennessee, 124; Nebraska, 220; Iowa, 278; Kansas, 283; Missouri, 320; Illinois, 666.

It is not a crime to stay away from the summer meeting of the N. E. A., so no fault will be charged on the "cultured" ones of Vermont, New Hampshire and New York who remained at home; but with brother MacDonald we would like to know why of these teachers 4,000 in Vermont, 5,000 in New Hampshire, 30,000 in New York (nearly 40,000 in all), only 130 cared to listen to the reading of educational papers, etc. The percentage is one-seventh of a teacher to the hundred. Now the small attendance from New York could not have arisen from the meeting of the State Association at Saratoga for that was the nearest to a failure ever reached.

THE JOURNAL has pointed out a good many times, that the state meetings and the national meetings of educators should consist of elected delegates; the above facts seem to warrant the conclusion a sound one.

Chauncey M. Depew, like many another unfortunate young man, learned the use of tobacco in college, undoubtedly supposing it was a "big thing" to smoke. After twenty years he was willing to acknowledge he was inflicting an injury upon himself. He recognized that he was getting heavy-minded and dull intellectually, and that he coveted the effects of the nicotine more and more. Feeling this he said as he took a cigar out of his pocket, "This has gone far enough," and he threw the cigar into the street, and from that day he has not smoked. Mr. Depew declares if he had not stopped at that time the habit would have absolutely mastered him, and that he would have become what Edwin Booth is—a wreck from the use of tobacco. He declares he hears with pleasure that there are fewer young men in college who smoke than when he was a college student. The greater interest in athletics has led to this; the tobacco user cannot compete with the abstainer.

The *Catholic Educator* knows a good thing when it sees it; we often find articles gathered in from our pages. We shall not repine if credit is given. Sometimes we find a splendid article in an educational paper, somehow it seems familiar; as we read on we recognize our ideas. We look; and we find no credit! Clip our brains if you must, but give credit. Only four articles with no credit in the *Catholic Educator*.

The students of Moscow university are being watched with great vigilance by the authorities. They are not allowed to meet in large numbers at the theatres, only seventy being admitted to the galleries of the Great Theatre and thirty-five to the Little Theater. The seats are so arranged at these places that they are

dispersed among the public. How would the free and easy American students enjoy such surveillance?

The compulsory education bill which is before the legislature at Albany this week is made to apply to every city in the state and is a radical measure. All children between 6 and 13 years of age are required to be under instruction at home, in a private school, or in a public school, whenever the public schools are in session. Parents and guardians are held responsible for the care of the child and are required to keep it under instruction. Uncontrollable or incorrigible children are provided for in special institutions. The law sets up the machinery for securing a perfect census of children of school age and provides for the appointment and payment of officers who must account for every child and execute every provision of the law.

Dr. William J. Tucker, of Andover Theological Seminary, has been elected to the presidency of Dartmouth college in place of President Bartlett recently resigned.

Dr. Tucker was graduated from Dartmouth in 1861, and finished his course in Andover Theological Seminary in 1866. In 1867 he became pastor of the Franklin street church of Manchester, N. H. In 1875 he was called to the Madison Square Presbyterian church of New York. Since 1879 he has been professor of homiletics in Andover. He is an editor of the *Andover Review*.

At a late meeting of the Chicago High School Association, and also at the Chicago Science Teachers' Club, the following resolutions, offered by principal E. R. Boyer, were unanimously adopted:

Resolved: That we believe that the introduction into the primary and grammar grades of elementary instruction in natural history in connection with reading, language work, and drawing, will tend to awaken and sustain in the pupil an increased interest in school work; that such instruction will make pupils more observing and thoughtful; that it will fit pupils better for the science work required of them in the high school and enable them to realize from these studies a greater amount of good.

Resolved: That we believe that all rational methods of instruction in botany and zoology in the high school must be based upon genuine and thoughtful observation; that a careful study should be made of one or more representatives of each group of animals or plants, accompanied by experiments, written descriptions, and drawing and that these practical studies should be made the basis of all text-book work and demonstrations.

Resolved: That we favor the introduction of laboratories into the high schools and the adoption by the boards of education, of a uniform outline or synopsis of practical work advised by them.

Gov. Brown, of Maryland, has designated Wednesday, April 6, as Arbor day. The proclamation especially recommends to parents and teachers that they encourage children to plant at least one forest or shade tree on the day named by the side of some road or about their school-houses or homes.

An exchange protests against requiring pupils to memorize the names of state officers and also against similar questions in examinations for teachers' certificates. There are many other things of more importance than the names of the judges of the Court of Appeals. No wonder there is no time for manual training. Well does President Eliot ask for an enrichment of the common school course. Away with the deadwood; clear out the garrets. "Ring out the old."

Buffalo is, as we have said, waking up. Feb. 25 the Liberal Club was addressed by Dr. James MacAlister.

"He traced the rise of the educational movement from the French Renaissance at a time when Europe was in darkness and ignorance and the learning of Greece and Rome had died away. The rejuvenation had its sure but slow advent with its centers in Jerusalem and Athens, religion and knowledge, and the discovery of nature was a potent factor in the awakening. To Lord Bacon much was due for the foundation of modern philosophy, but Rousseau was the man who more than any other set on foot present ideas. His disciple Pestalozzi founded the beginning of modern education. His name to-day is better known than that of Napoleon. Froebel carried these teachings to the ultimate. He revealed the vast depths of a child's nature and we have only begun to realize the importance of his methods. He continued:

"To my mind to-day no problem is so important as the kindergarten universal. It embodies all that is best and highest in education and no element needs it more than the rich. And I insist that manual training is important in every education. In it lies the great future of our schools. The imperative duty of every school board is to simplify the course of study. These principles are the outcome of a process of 300 years. The ultimate end of all education is to bring man into the right relation to nature and to life."

Superintendent W. H. Love, the new superintendent, declared:

"The first change to be attempted in our school reform is to bring in the kindergarten or sub-primary work. I have already suggested that two grammar schools be consolidated and manual training adopted, and I hope Buffalo can soon boast of as good a manual training school as Philadelphia. Professor Emerson, principal of the high school, declared that most of the evils arose from the poor standard of teachers. It was a crying evil that they were not appointed on business principles."

Professor Detmers, of the high school, declared that every child should be imbued with a deep and abiding moral earnestness. It is the need of such training that makes the true teacher despair at the appointment of incompetent teachers, which is the bane of the educational system in Buffalo and in New York state. He boldly denounced the politics method of choosing heads for the city and state educational departments and was greeted with applause.

The state of Ohio issues two kinds of educational diplomas (life certificates). Of the one called the high school certificate there were issued on December 29, 30, 31 last, eleven all gentlemen; of the one called the common school certificate there were 17 issued, nine being to ladies.

Washington's birthday was observed by the schools of Olean, N. Y., in an appropriate manner. In the afternoon there was an exhibition of pupils' work in school building No. 3, which was decorated with flags and bunting and portraits of George and Martha Washington. The work of the different grades was kept separate. The main feature was the exhibit of specimens of drawing, consisting of maps (plain and colored), charts, botanical drawings, etc. There were also specimens of construction and pattern work from all of the grades. The exhibition revealed the excellence of the new system of instruction in drawing and also the fact that more school room is needed. In the evening a patriotic entertainment took place at the armory, consisting of singing, an address by Supt. A. B. Davis, declamations, etc.

Princess Victoria, of Hawaii, will leave England, where she has been at school for three years and enter Wellesley college to complete her education. The princess is described as a pleasant young lady of 16, and a niece of the late King Kalakaua.

Trinity college, North Carolina, which had previously received \$85,000 from Washington Duke, Esq., has been enriched by another donation of \$100,000 and additional property worth \$20,000 from the same source. This is the largest gift made by a Southern man to the cause of education since the war.

New York City.

The need of high schools in communities where the children of school age number 200 or over, is generally admitted. The city of New York has none as yet, supplying the place with the city and normal colleges, but the feeling is gaining ground that institutions should exist that would give the graduates of the grammar schools a one-year course or a two-years' course as they might prefer, such course aiming at business preparations. There are a large number of young women who do not want to enter the normal college, but are looking at clerkships, or places in offices, etc.; they need to have book-keeping, stenography, typewriting. There are a larger number of young men who must have a special preparation for commercial duty. These now go to the "business colleges" or they get places and attend the evening classes. For these our New York city board of education should make the best kind of preparatory schools. It is estimated by principals that six schools of 500 each would be filled now by graduates of the grammar schools. The principals of the grammar schools feel that it would be of value to them in a disciplinary point of view; pupils would struggle to maintain a good standing, and to graduate from the grammar schools if they had a high school before them. It is quite possible that the buildings now used for grammar schools would be used for high schools; the one in 13th street for example. One principal suggests that the high school classes might be scattered about for the present. There certainly is a feeling rising that the grammar school graduates are not properly taken care of by the city.

At a special meeting of the University School of Pedagogy, held January 23 relative to the death of John A. Demarest, who died December 21 last, remarks were made and the committee (Messrs. Majory and Hanson, and Miss Halsey) reported that:

"Mr. Demarest has been long a successful teacher and school officer, ever active in advancing the work of public education and the interests of teachers. For a number of years he was county superintendent of schools in Bergen Co., N. J., and at the time of his death was principal of public school No. 22 in Jersey City. As a member of the School of Pedagogy Mr. Demarest's work commanded the highest approval of the instructors. Sympathy is expressed for his family in their bereavement."

It is reported that Mr. J. Pierpont Morgan had made a gift of \$500,000 to be used in extending the industrial school system which Col. Auchmuty founded about ten years ago at First avenue and 67th street in this city, and has since been fostering. The money according to that report, was to be devoted to establish a technical training and industrial school to be modeled on the schools of Berlin. Col. Auchmuty founded the trade schools with his own money, built buildings, and from time to time has extended them until they now cover almost the entire block. New buildings were added last year, and if Mr. Morgan will aid this present plan to further development he will be doing a better thing, than following any foreign device.

Blood poisoned by diphtheria, typhoid, etc., is made pure and healthy by Hood's S. S. S.

Correspondence.

I have a country school with 6 classes and it is impossible to reduce the number. I have one class preparing for 3rd class certificate.

1. Would it be best to invariably prohibit talking across seats? So far I have not done so.

2. Can you suggest any possible way to keep them all profitably employed with seat work?

3. How can I make use of the older scholars to keep the younger engaged? I am sometimes almost put to my wit's end to keep them engaged and interested.

J. H.
Manitoba.

1. No. I would not allow talking across seats or *in* seats either.

2. Suggestions to keep so many classes busy, could not be given you by one unacquainted with the conditions.

A regular program for seat work and busy work, should be made out at home. Depending upon the emergencies of the hour, for such help will not do. You have an almost superhuman task on hand to teach all these classes and keep them wisely employed. Have you graded your classes as much as possible? Much closer classification and grading can be made in country schools than is usually supposed.

3. It will be a class of exceptional pupils who can assist you in keeping the small ones correctly employed and yet keep their own work well done. These smaller children need the most skilful training of any in your room. All this may sound discouraging; but you have a difficult problem to work out and you need to think and plan for it very closely and carefully. Consult some experienced country teachers and get help from them. If you have any teachers' meetings in your locality—and you ought to have them—bring up these subjects for discussion.

I teach in the high school department of the school here using Barnes' General History. I feel very sorry at times to have my pupils say to me they do not like Ancient History. We have Greece at present, and I try to interest them by reading occasionally from Greek-Roman Mythology. What else can I do? My class numbers 29 and I have 35 minutes for recitation. L. M.

III.

(1) Tell them stories from the Iliad and Odyssey. (See Hawthorne's "Wonder-Book.") Tell them with spirit; tell them simply to interest and arouse them. (2) Give them ideas of the ways the Greeks lived (See Mahaffey). You must immerse them in Greek life and thought. (3) Construct maps and stand before the class with pointer and tell them the great and stirring events in a stirring way. (4) Don't ask them to memorize the book. (5) Determine to interest them. By the way, are you interested in Ancient Greece? Would you study it if you did not have to teach it?

1. How many states and territories in the Union, and which were the last admitted as states, and when? 2. In Friday afternoon readings or recitations, is it best to have the school criticise the performer? 3. Do you think "spelling matches" are beneficial? If so, what is the best plan of conducting them? M. M. M.

1. There are 44 states and six territories. The last two states to be admitted were Idaho and Wyoming in 1890. 2. It does not seem advisable. 3. Only as a Friday afternoon exercise or for variety in entertainment. There is no "best plan" for these things. One teacher may succeed where another fails; the old-fashioned custom was the selection of the "captains" by the teacher. These in turn selected their respective "sides." The words were then given out by the teacher, the spelling continuing until one side had been "spelled down" by the other.

What would you do with grown young ladies who are dishonest? Texas.

B. M. H.

The term "young ladies" and "dishonest" sound rather paradoxical. You have one of the most delicate tasks that can be set before a teacher, to change the opinions and standards of these young women. After showing them in a tactful way, and by an unswerving straight-forwardness in your own conduct, the value and beauty of *honor*, the next step would be to *begin to trust them*. If anything will resurrect a sense of honor in girls it will be the knowledge that the teacher has faith in them.

I desire information on the University Extension. I want to know what is proposed, what is required of those who wish to become members, and whom I can address to secure information.

Ark.

P. H. WILKERSON.

The idea is to encourage home study. There are many young men who could if they "studied at a mark," in six or seven years be able to obtain a degree in a college. The University of London (as we understand it) has no class-rooms; all its students are at a distance; examination papers are sent out and when they have finished the course creditably they receive a diploma. Address the University of Pennsylvania, Philadelphia, Pa.

Important Events, &c.

Selected from OUR TIMES, published by E. L. Kellogg & Co.; price, 30c. a year.

News Summary.

MARCH 1.—A great storm along the Atlantic coast.—Socialists and democrats deny any responsibility for the Berlin riots.

MARCH 2.—Many people in Hungary dying from starvation.—The price of coal advances in England on account of the miners' strike.—A commercial treaty to be made between the U. S. and France.

MARCH 3.—A German newspaper suppressed for criticising the emperor.—Congressman Springer critically ill.

THE BERING SEA DISPUTE.

At a meeting of the cabinet at Washington on March 8 it was decided to insist on a *modus vivendi*, somewhat similar to that of last year, having for its object the protection of the seal fisheries by the joint action of Great Britain and the United States pending the settlement of the questions at issue by arbitration. There seems to be little hope of the adoption of the arbitration treaty now before Congress.

A SOUTH AFRICAN EXPOSITION.

A South African exposition will be held at Kimberley, Cape Colony, beginning September 1892, and lasting three months. The exposition will be divided into four sections, to be devoted to the British, Continental, American and Canadian, and South African exhibits. Especial attention is to be given to the exhibits from the new and little-known portions of South Africa. The mining and agricultural features will be especially interesting. In the process of illustrating gold mining 100,000 ounces of gold are to be exhibited. Efforts are to be made to secure a fine display of electrical apparatus, and also for one of agricultural implements.

FRANCE'S NEW MINISTRY.

The De Freycinet ministry in France went out recently and another ministry headed by M. Loubet took its place. What puzzles foreigners is that the new ministry does not announce any change of policy. The Radicals would like to put a much greater stress upon the rights of the state than has been done heretofore, and the Clericals a much greater stress upon the rights of the church. The new premier says that the rights of the clergy under the concordat will be protected, but they must also fulfill their obligations.

He says that parliament has secured economy, and better protection for farmers and manufacturers. That body is asked especially to examine measures regulating the labor of women and children in factories, accidents, pensions to workmen, and arbitration of labor disputes. The national will has given such strength to the republic that its opponents appear resigned to accept it.

THE IMMIGRATION QUESTION.

The secretary of the treasury sent to Congress the reports made to him by the commissioners who investigated the immigration question in Europe. He recommends that the cubic air space for each immigrant passenger on board ship be largely increased; also the abolition of the present head tax of 50 cents upon each alien immigrant be abolished and a tax upon the several steamship companies equal to \$1 for each income from Europe to any port of the United States be levied. The owners or agents of steamships should give a bond that they will return to their respective countries such immigrants as have been brought here contrary to the laws of the United States. The secretary believes that there should be an inspection of such persons as intend coming to the United States, under the direction of our consuls abroad.

JAPAN WISHES TO RULE THE EAST.

The Japanese government is much pleased with the result of the colonists sent to the Hawaiian, Caroline, and other islands of the Pacific. It is now proposed to assist the French proprietors in New Caledonia to colonize that island with a good class of Japanese subjects. The object of this movement is to make as many of these islands as possible dependencies of Japan, and in this manner increase Japanese trade. Japan has an ambition to become the leading nation in the East, as Great Britain is of the West. Steamers now run between the home ports of Yokohama, Kobe, and Nagasaki and various new colonies, and a scientific expedi-

tion has been sent out to the Pacific islands to see which are available for colonization. The Japanese who go to New Caledonia will be employed in the nickel mines. There is a great demand for this metal in Europe for armor plates and cartridge cases.

THE FINANCIAL TROUBLES OF GREECE.

The little kingdom of Greece just now furnishes an example of the danger to business of a discredited currency, and also shows how business is conducted under a constitutional monarchy. The cabinet officers hold office so long as they have a majority in their favor of the Boule (or legislative body of the kingdom), or until the king sees fit to dismiss them. About a year and a half ago Mr. Tricoupis, a statesman of broad ideas and an economical disposition, lost his majority in the Boule and had to step out. It is said that he lost his power because he devoted himself too closely to the domestic welfare of the nation to suit certain persons who were engaged in foreign intrigues for the annexation of Crete and

Macedonia. On his retirement Mr. Dalyannis became premier, and in a few months he has driven the nation nearly to the verge of bankruptcy by the issue of a large amount of paper money. The foreign trade balances and the interest on the public debt are payable in gold. As it takes two dollars of the paper money to procure one of gold this is rather expensive for the government. Mr. Dalyannis was unable to secure a sufficient loan and the king was forced to dismiss him. Mr. Tricoupis would not accept the position as premier with a majority in the Boule hostile to him and so Mr. Constantopoulo took the place. The next election may result in the making of Mr. Tricoupis premier once more.

IMPERIAL FEDERATION.—At a meeting of the Canadian branch of the Imperial Federation League a resolution was adopted that in the event of inter-imperial preference trade relations being adopted by the British Empire it is the opinion of the league that

SPARE WOMEN

Thin women know how much beauty owes to plumpness. Beautiful women know how much it owes to comfort. Men do not think of these things very deeply; beauty does not seem to them to call for analysis.

What is thinness? Too little fat. You say you are losing flesh when you are getting thin. It is fat. You are losing fat; and fat belongs to health and comfort as well as to beauty.

If a woman imagines she cares more for beauty than for comfort and health, it is because she does not see that there is no beauty without comfort and health.

The means of beauty and comfort and health, to some who are thin, is CAREFUL LIVING and Scott's Emulsion of cod-liver oil.

A book on CAREFUL LIVING will be sent free to those who write for it to Scott & Bowne, Chemists, 132 South Fifth Avenue, New York.

Scott's Emulsion of cod-liver oil, at any druggists, \$1.

February '92.

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Canada will be found ready and willing to bear her just and fair proportion of imperial responsibility. Some members wanted a resolution passed asking for a reduction of duty on British goods imported, but the Conservatives, scenting a movement for free trade, brought the discussion to an abrupt end.

MEXICO PROTECTS FOREIGNERS.—American and European merchants, manufacturers, and others deny the report that the Diaz administration has failed to protect them. President Diaz has had restrictions on trade and business removed.

LOADED WITH VITRIOL.—A French officer has submitted to the War ministry a rifle that will project a stream of vitriol for a distance of 230 feet. He proposes that this weapon be used only against savages to prevent their making frenzied rushes.

DEATH OF GEN. CULLUM.—Gen. George W. Cullum, a distinguished officer of volunteers in the war, died lately in New York. For a long time he was Gen. Halleck's chief of staff. He directed engineering operations on the Western rivers, was for some time in command at Cairo, and was engaged as chief engineer in the siege of Corinth.

RIOTING IN TRIPOLI.—Rioting was caused by the sultan's order that natives should be liable to conscription, from which they have hitherto been exempt. Thousands of Arabs assembled outside the city gates and demanded the withdrawal of the decree. Several battles with the troops took place. All the Europeans in the vicinity took refuge in the city and business was suspended.

U. S. SUPREME COURT DECISIONS.—The United States supreme court has rendered decisions affirming the constitutionality of the McKinley tariff act of October 1, 1890; and, incidentally, establishing the validity of the rule in the last House of Representatives permitting the speaker, for the purpose of preserving a quorum, to count members present but not voting. Justice Lamar dissents from the part allowing the president to enter into reciprocal trade agreements. He takes the ground that this is an attempt by Congress to delegate legislative power, and therefore is unconstitutional. The chief justice holds the same opinion.

BUSTS OF VICE-PRESIDENTS.—The niches around the galleries of the Senate chamber will soon contain two more handsome marble busts of vice-presidents. In the course of a week or two busts of Vice-Presidents Wheeler and Arthur will be added to those now in the chamber. The bust of Vice-President Hamlin will also soon be ready to place in position, as well as that of Vice-President Morton.

LANDING MANY MONKEYS.—The steamship *Nomandie* landed at New York lately about sixty monkeys. There were two Barbary apes, a monkey hard to obtain, as their home is in the highlands of that country, and they are held in reverence by the fanatical inhabitants. Among others there were some Jew monkeys and a large number of Rhesus monkeys. Two Diana-faced monkeys were also among the number. The steamship *America*, also landed a consignment of monkeys of about the same sort as those brought by the *Nomandie*, but among them were some fine baboons from South Africa.

BOTANY.

Outlines of Lessons in Botany.

PART II.—FLOWER AND FRUIT. For the use of teachers. By JANE H. NEWELL. Sq. 16mo. Illustrated. Cloth. About 400 pages. To teachers, \$1.00. Ready in March.

The book aims to encourage habits of correct observation, and suggests points for the class to investigate. It embodies a course which takes up our spring flowers in the order of their blooming, together with the forest trees, the blossoming fruit-trees, and some of our common weeds. The studies are not analytic only, but deal with the life-habits of the plants, their marvellous adaptations for fertilization, dissemination, and protection.

W. F. Ganong, Instructor in Botany in Harvard University: It is logical in plan, scientific in treatment, and without doubt will be found most convenient in practice. I commend it to all beginners.

Elements of Structural and Systematic Botany.

For High Schools and Elementary College Courses. By D. H. CAMPBELL, Ph.D., Professor of Botany in the Leland Stanford, Jr. University. 12mo. Cloth. ix+253 pages. \$1.12.

The fundamental peculiarity and merit of this book is that it begins with the simple forms, and follows the order of nature to the complex ones. The method is to select a number of typical plants and study these in detail.

R. Ellsworth Call, High School, West Des Moines, Ia.: The book will surely mark an epoch in the teaching of Botany in the high school.

New Books.

There is a growing tendency to make school books interesting, on the principle that it is better to sugar-coat a pill than to administer unpalatable medicine without any concealment of disagreeable taste. A great deal of science presented simply as science is distasteful to the young, but dress it up in an attractive shape and they will become interested in it. Prof. N. S. Shaler has been doing just such work for the school children in his little book, *The Story of our Continent*. It is indeed a wonderful story concerning the birth of great lakes and rivers, the lifting up of mountain ranges, the aboriginal people who occupied it when Europeans came, the effect of the form of North America on the history of the colonists from Europe and their descendants, and the present commercial condition of the continent. If the children read this book in connection with their study of geography they will not only learn the condition of the earth and its people, but much of the causes that have made them what they are. They will, moreover, obtain this knowledge in the most pleasing way possible, for Prof. Shaler is a very fascinating writer on scientific subjects. (Ginn & Co., Boston.)

Those who have never visited the West can scarcely conceive of the grandeur of some of the scenery in the Rocky mountain region and on the Pacific coast. Words fail to give any conception of it. Pictures are more satisfactory. A Denver photographer has originated a bright idea—the production of photographs of grand scenery in the Rocky mountain region and elsewhere. They are from 21 to 23 inches long, and from 16 to 17 inches wide—large enough to be seen distinctly across a good-sized room. We have received several of these pictures including *Curicante Needle*, Black canon of the Gunnison; *El Capitan*, Yosemite; *Fremont Pass*; *The Giant and Young Faithful Geysers*; *The Portals*, canon of the Grand river. These fine photographs framed and hung up in the school-room would not only make the room attractive, but would deeply impress lessons in geography on the minds of the pupils. (W. H. Jackson & Co., Denver.)

An admirable specimen of the modern school text-book in clearness of typography, beauty of illustration, and excellence of matter is *Appleton's School Physics*, edited by Prof. John D. Quackenbos, of Columbia college. It is intended "to meet an existing demand for a thoroughly modern text-book on natural philosophy, which shall reflect the most advanced and practical laboratory and pedagogical methods, and at the same time, be adapted, in style and matter, for use in the higher grades of our grammar schools, our high schools, and our academies." A somewhat original plan in the preparation of this book was the assignment of different departments to different men, after the manner of the preparation of a dictionary. By this means a more thorough and careful work has been made than would have been produced by one man. Those who assisted in the preparation were Prof. Silas W. Holman, motion, energy, force, the properties and constitution of matter, solids, liquids, gases, and mechanics proper; Prof. Francis E. Nipher, heat, light, frictional and voltaic electricity; Prof. Alfred M. Crocker, magnetism and the practical application of electricity. Motion, energy, force and work, especially have been given thorough and original treatment. Among the most valuable portions of the book are those giving directions in regard to the manufacture of cheap apparatus. The numerous

Outlines of Lessons in Botany.

PART I.—FROM SEED TO LEAF. Sq. 16mo. Illustrated. 150 pages. Cloth. To teachers, 50 cents.

W. H. Lennon, State Normal School, Brockport, N. Y.: It should be in the hands of every teacher giving plant lessons.

A Reader in Botany.

PART I.—FROM SEED TO LEAF. Selected and adapted from well-known authors. By JANE H. NEWELL. 12mo. Cloth. vi+209 pages. For introduction, 60 cents.

This book treats of Seed-Food, Movements of Seedlings, Trees in Winter, Climbing Plants, Insectivorous Plants, Protection of Leaves, etc. **Wisconsin Journal of Education:** It will most admirably serve the purpose of interesting young readers in botany.

Little Flower People.

By GERTRUDE ELISABETH HALE. Sq. 12mo. Illustrated. Cloth. xiii+85 pages. Price for introduction, 40 cents.

The aim of this book is to tell some of the most important elementary facts of plant-life in such a way as to appeal to the child's imagination and curiosity, and to awaken an observant interest in the facts themselves.

Mary A. Willis, Facker Collegiate Inst., Brooklyn, N. Y.: I find it both interesting and delightful.

GINN & COMPANY, Publishers, BOSTON, NEW YORK & CHICAGO.

illustrations greatly add to the usefulness and attractiveness of the book. (American Book Co., New York, Cincinnati, and Chicago.)

We have received the first of a series of historical tablets—tablets aimed at interesting the pupils in the great events of history and encouraging investigation. American history tablet No. 1, has for its subject *Christopher Columbus and the New World of Progress*. There are suggestions to teachers, historical reading, questions and subjects for composition writing, with blank pages opposite for the pupil's compositions. (Columbus Educational Publishing Co., Columbus, Ohio.)

The great empire that stretches from the Baltic to Bering sea has formed the subject of many volumes, still there seems always to be something new to say about it. Such a strange mixture of civilization and barbarism as is met with in Russia is to be found nowhere else. Oriental magnificence exists side by side with the most abject poverty; in the large cities in contrast with wealth and culture there is the densest ignorance. In his volume *Across Russia*, Charles Augustus Stoddard describes the wonders of St. Petersburg, Moscow, and other cities. He puts in rather more light than shade, but there is enough of the latter in any picture of the land of the czars. The author touches very lightly on the political aspects of the country, but gives us full descriptions of those grand churches, palaces, and pleasure grounds that wealth, nobility, and royalty have had created. He also touches upon some social aspects of the people and religious customs. Mr. Stoddard seems to have had exceptional opportunities to study objects of interest and writes about them in a way that cannot fail to interest. We have had so many dark pictures of Russia lately that it is a pleasure to get hold of a book that is to a certain degree optimistic. The book is bound in cloth with gilt lettering and decorations and well illustrated. (Charles Scribner's Sons, New York. \$1.50.)

In the Elementary Classics series has been issued *Tales from Herodotus*, with Attic dialectical forms, by G. S. Farnell, M. A., assistant master at St. Paul's school. It is suitable for those who are in an early stage of their study of Greek, because the construction of the sentences in Herodotus is easy, and in style and subject he is a fascinating writer. In the vocabulary are marked all words not found in the accepted Attic prose writers. (Macmillan & Co., London and New York. 40 cents.)

Part II. of Muret's *Encyclopedic Dictionary* of the English and German languages is a volume of 111 pages. It carries the Eng-

lish-German vocabulary from *aloe* to *band*. The pronunciation in this work is according to the phonetic system of the Toussaint-Langenscheidt method. The dictionary is very thorough and of great value to students of German, on account of the idiomatic phrases that are given. Under some words, as *ask*, *at*, etc., these are very numerous. (The International News Company, New York.)

Prof. C. B. Van Wie, of the state normal college at Florence, Ala., gives the results of two years' practice-teaching in a little volume, entitled *Development Helps*. Part I. is devoted to elementary psychology with the hope that it will encourage teachers to study the subject further. The "helps" cover the first year's work of a three-years' course in pedagogics. They are substantial helps too, relating to preparing, giving, and criticising lessons that have been tested by actual practice. It is seldom one finds so much matter of practical value in so small a space. (C. W. Bardeen, Syracuse, N. Y.)

If there ever was a poet who needed commentators it is Browning. In his works there is plenty of gold, but one has to dig long and hard for it. He is so frequently obscure, that the average reader soon becomes discouraged. Browning's greatest power was shown in depicting men and women, but there is not enough action in them for successful dramatic representation. Students of the poet will find great help in F. Mary Wilson's *Primer of Browning*. It gives a sketch of his life, his characteristics as a writer, and a classification of his works with the origin, plot, etc., of each. As Browning's poems fill seventeen volumes the advantage of having such a resume is apparent. (Macmillan & Co., New York. 85 cents.)

Prof. Reinhart's third book in the Teachers' Professional Course—*Civics in Education*—is now in the printer's hands and will be ready soon. These little books contain from 70 to 80 pages; are printed in large handsome type, and bound in limp cloth and give the largest value for the price of anything published for teachers. Here is the list:

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(For Literary Notes and Magazines see narrow column on page 277.)

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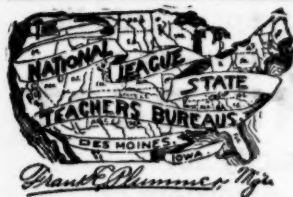
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